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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/605,823	10/29/2003	Peter T. Coutu	BUR920030143US1	2822

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EXAMINER

NGUYEN, VINCENT Q

ART UNIT	PAPER NUMBER
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2858

DATE MAILED: 09/06/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/605,823

Applicant(s)

COUTU, PETER T.

Examiner

Vincent Q. Nguyen

Art Unit

2858

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Specification

1. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

2. The abstract of the disclosure is objected to because it contains legal phraseology "comprising" (e.g. lines 4) and "said" (e.g. second line from the bottom). Correction is required. See MPEP § 608.01(b).

Objection

3. Claim 1, line 11, after "plate", should one of the preposition "of" or "from" be deleted.

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4. Claims 2-12 recites the limitation "The invention" in line 1. There is insufficient antecedent basis for this limitation in the claim. Appropriate correction and/or explanation is required. For the purpose of examination, all the "The invention" is interpreted as "The method".

5. Claims 5, 6, recite the limitation "the second voltage" in lines 1-2. There is insufficient antecedent basis for this limitation in the claim. Does applicant mean the initial voltage, in the step of applying and changing the voltage, is less than the target voltage? Appropriate correction and/or explanation is required. For the purpose of examination, examiner the initial voltage, in the step of applying and changing the voltage, is less than the target voltage.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

7. Claims 1-8, 10-12 are rejected under 35 U.S.C. 102(e) as being anticipated by Guo et al. (6,606,273).

Regarding claims 1, 10-12, Guo et al. discloses a method of determining electron tunneling values having at least a first and a second conductive plate with a dielectric material disposed there between (Figure 3E), and wherein each said plate has first and

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second opposite ends (The limitation such as first and second plate and dielectric is true for any prior art of capacitor include prior art of Guo et al.), comprising the steps of determining the electric material nominal tunneling voltage of said dielectric material at the thickness of the dielectric material to provide a target voltage (Step 104) (Figure 2), applying a first voltage level equally across said first plate of from said first to said second ends (By element 440); applying incrementally changing voltage levels to said second end of said second plate, which varying voltage levels change the voltage at said second end of said second plate of each set to vary the length of the capacitive structure above said target voltage (Step 108).

Regarding claims 2, 3, Guo et al. discloses the second plate of is comprised of a plurality of segments and unitary structure (Figure 3E).

Regarding claim 4, Guo et al. discloses the voltages are incrementally changed to correspond to the segments of said second plate (Step 108) (see also figure 4).

Regarding claim 5, Guo et al. discloses the initial voltage is initially less than the target voltage (Negative voltage is less than threshold) (col. 6, lines 61-67), and is incrementally increased.

Regarding claim 6, Guo et al. discloses the initial voltage is equal to or greater than the target voltage, and is incrementally decreased (+- 20%) (Col. 7, lines 22-25).

Regarding claims 7, 8 Guo et al. discloses the plate is polysilicon (col. 8, lines 30-36).

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Guo et al. (6,606,273).

Regarding claim 9, Guo et al. does not disclose the insulating material is less than about 4 nanometers thick.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate the material having thickness of less than 4 nanometer into the system of Guo et al. since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Patent No. 5,712,816 (Cappelletti) discloses a method to extract electrons from the floating gate of the defective-gate-oxide or defective-interpoly-dielectric cells and so modify the characteristic of the cell while leaving the charge of the non-defective cells unchanged.

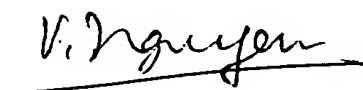
Patent No. 5,485,097 (Wang) discloses an apparatus and method for measuring thin oxide thickness by tunnel voltage in a device under test includes the steps of applying a predetermined value of current density through the device under test, measuring voltage developed across the device under test, and calculating the oxide electrical thickness through a predetermined calibration curve.

Contact Information

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Vincent Q. Nguyen whose telephone number is (571) 272-2234. The examiner can normally be reached on 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eddie Lefkowitz can be reached on (571) 272-2180. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Vincent Q. Nguyen
Primary Examiner
Art Unit 2858

September 1, 2005